

## Message Text

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ACTION OES-05

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FM AMEMBASSY TOKYO

TO AMCONSUL HONG KONG

SECSTATE WASHDC 8353

INFO ERDA GERMANTOWN

UNCLAS TOKYO 2673

E.O. 11652: N/A

TAGS: ENERG, BEXP, HK, JA

SUBJECT: FUTURE COST OF ENRICHED URANIUM

REF: 1. STATE 8026 2. HONG KONG 0882

1. REAL COSTS ASSOCIATED WITH COMMERCIAL NUCLEAR POWER GENERATION ARE TREATED AS PROPRIETARY DATA BY THE REACTOR MANUFACTURERS AND ARE NOT RELEASED TO THE PUBLIC. HOWEVER USG HAS SPONSORED NUMEROUS STUDIES ON FUEL CYCLE COSTS OF NUCLEAR POWER PLANTS WHICH TEND TO SUPPORT TREND INDICATED BY RECENT FEDERAL POWER COMMISSION STUDY WHICH SHOWED THAT IN MAY 1973 THE COST OF GENERATING ONE MILLION BTU WITH OIL WAS 71 CENTS, WITH COAL WAS 39 CENTS, WITH NATURAL GAS WAS 34 CENTS AND WITH NUCLEAR ENERGY WAS 20 CENTS. BY MAY 1974 THE COST WITH OIL HAD RISEN TO \$1.88, COAL 66 CENTS, NATURAL GAS 44 CENTS BUT NUCLEAR ENERGY WAS STILL 20 CENTS. NUCLEAR FUEL COSTS NOT EXPECTED TO REMAIN AT CURRENT LEVELS OVER REST OF THIS CENTURY BECAUSE OF INFLATION AND INCREASING SCARCITY OF ENERGY RESOURCES BUT CURRENT INDICATIONS ARE THAT NUCLEAR FUEL WILL MAINTAIN OR INCREASE ITS COST ADVANTAGE.

2. IN 1972 COSTS OF URANIUM ORE FOR DELIVERY AS YELLOWCAKE

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WERE \$6.50 PER POUND. IT IS NOW ABOUT \$14, WITH UNVERIFIED

REPORTS AS HIGH AS \$18. PRICES QUOTED FOR FUTURE DELIVERY INDICATE AN INCREASE OF ABOUT 50 CENT BY 1980. FUTURE PRICE RISE MOST LIKELY BUT LONG SHOT EARLY DEVELOPMENT OF NEW TECHNOLOGY SUCH AS LASER URANIUM ENRICHMENT, FAST BREEDER REACTORS OR NUCLEAR FUSION COULD DRASTICALLY REDUCE REQUIREMENTS AND REDUCE URANIUM PRICES. SINCE COST OF FUEL FOR NUCLEAR REACTORS IS MUCH SMALLER PERCENT OF COST TO GENERATE POWER THAN FOR FOSSIL FUELED PLANTS, ANTICIPATED INCREASES IN URANIUM PRICES DO NOT APPEAR TO BE MAJOR ECONOMIC PROBLEM IN NEAR TO INTERMEDIATE FUTURE. URANIUM ENRICHMENT SERVICES ARE NOW ABOUT 25 PERCENT OF NUCLEAR FUEL COSTS AND PRESENT COST OF NUCLEAR POWER PRODUCTION RELATIVELY INSENSITIVE TO RECENT INCREASES IN ENRICHMENT CHARGES. YOUR QUESTION IN REFTEL CONCERNING THE EFFECT WHOLESALE RUSH TO NUCLEAR POWER WILL HAVE ON URANIUM PRICE NOW SUBJECT OF MUCH SPECULATION. CARE MUST BE TAKEN IN DRAWING CLOSE ANALOGY OF URANIUM PRICES WITH PRESENT OIL PRICE BEHAVIOR BECAUSE EXCLUDING THE US WHICH IS A LEADING PRODUCER OF BOTH URANIUM AND OIL, POLITICAL AND ECONOMIC CONDITIONS OF MOST POTENTIAL MAJOR URANIUM PRODUCERS IS QUITE DIFFERENT THAN FROM OIL PRODUCERS.

3. THE FIVE MAJOR US REACTOR MANUFACTURERS IN THE US ARE GENERAL ATOMIC, HIGH TEMPERATURE GAS COOLED REACTOR (HTGR), GENERAL ELECTRIC, BOILING WATER REACTOR (BWR), COMBUSTION ENGINEERING, PRESSURIZED WATER REACTOR (PWR), BABCOCK AND WILCOX, PWR, AND WESTINGHOUSE, PWR. OF THESE THE TWO LARGEST, GE AND WESTINGHOUSE, HAVE REPRESENTATIVES IN HONG KONG WHO, ACCORDING TO THEIR TOKYO COLLEAGUES, ARE WILLING TO EXPLAIN NUCLEAR FUEL COSTS FROM THEIR COMMERCIAL PERSPECTIVE: MR. L.C. SAUNDERS, WESTINGHOUSE ELECTRIC, SA, CAROLINE MANSION, YUN PING ROAD, PH. 5-761-221/3. MR. ED NAYLOR, MANAGER, POWER GENERATION SALES, SOUTH EAST ASIA, G.E. TECHNICAL SERVICES CO., USA, INC. ROOMS 803-4, HUTCHINSON HOUSE CORNER HARCOURT & MURRAY, HONG KONG, PH. 5-265-331/2.

4. TOKYO ERDA OFFICE HAS ADDITIONAL MATERIAL ON NUCLEAR POWER COSTS FROM A COMMERCIAL SOURCE AND HAVE POUCHED THE INFO TO AMCONSUL HONG KONG.

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5. RE PARA. 4, REF. 2, NPT REQUIRES THAT US SUPPLY ENRICHED URANIUM TO NON-NUCLEAR WEAPONS POWERS ONLY UNDER SAFEGUARDS OF INTERNATIONAL ATOMIC ENERGY AGENCY. WE PREFER THAT DEPT. COMMENT ON APPLICABILITY OF THIS REQUIREMENT AND RELATED US NUCLEAR LEGISLATION TO HONG KONG. HODGSON

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